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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/682,627	10/08/2003	Parker Willis	03-286 (US01)	8422

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EXAMINER	
JAWORSKI, FRANCIS J	
ART UNIT	**PAPER NUMBER**
3768	

DATE MAILED: 11/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No. 10/682,627	Applicant(s) WILLIS, PARKER	
	Examiner Jaworski Francis J.	Art Unit 3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 12293,1124,4124,2105(IDSs).

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-67 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-67 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 23 April 2004 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 12/29/3,1/12/4,4/12/4,2/10/05.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: the status of any copending cases mentioned in the specification should be updated.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

Claims 1 – 2, 4 – 5, 8 – 17, 19, 23 – 35, 37-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vesely et al (US5797849) and Willis et al (US6216027) insofar as Vesely et al teaches for example in col.s 3 and 5 and elsewhere a three-dimensional wireless transceiver system of acoustic or electromagnetic type for locating e.g. an instrument within a subject specimen using three-or-more transceivers to establish a triangulation reference frame and z-axis specificity based on transit times or phase differences incorporated into triangulation techniques. While Vesely does not state the specificity of how transit time differences between signals (signals being defined per applicants' specification page 16 line 9 – 16 definition) are used in the triangulation such as between distances associated with reference elements, it would have been obvious in view of Willis et al Fig. 2 to implement the mathematics of triangulation referenced in col. 6 lines 24 – 40 therein as a vector differencing between transit times for first and second and/or further signaling sets are determined by amplitude thresholding in order to triangulate a source location such as a cardiac ablation probe within a registration frame of reference whereupon the artisan would entertain this basis for conventional trigonometric solutions for three-dimensional triangular location transponders as in Vesely et al Fig. 1. Alternatively, Vesely would so teach three-dimensional triangulation with respect to an external reference transceiver set involving first and second and tyopically further distances. At least the reference transceivers internal or external must remain stationary for purposes of exercising the reference position function such as by adhesive patch mounting in Vesely et al. Angles both within the plane and out of plane (in the 3D case) are used in the triangulation methods of both references.

Claims 3, 6 – 7, 18, 20 – 22, 36, 53 – 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vesely et al and Willis et al as applied to claim 1 above, and further in view of Rex (US6298261). It would have been obvious in view of the latter to effect simultaneous transmissions for example by coding since this permits more instantaneous information to be ascertained on a time dynamic in the cardiac case, and to cross-correlate by mathematical identification of time shift peak between signals including a reference template of the transmission in order to determine transit differences therebetween.

Claims 8 – 11, 23 - 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim1 above, and further in view of Tenhoff et al (US5724978) which evidences in col. 3 top and cols. 6 – 8 that the tracking techniques of the Vesely et al parent case were extended to the 3-D case by using trigonometric techniques in terms of planar angles and perpendiculars as a matter of computational convenience in determining a singular position location from planar and non-planar data.

Claims 42 – 43, 45 – 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vesely et al and Willis et al as applied to claims above, and further in view of Lu et al (US6032066) since whereas the former are silent as to rigid reference frame (as opposed to a stationary reference when the reference system is external) the latter teaches that use of a rigid reference 17 having three transceivers serves to define a fixed reference plane for device tracking using triangulation techniques.

Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 43 above, and further in view of Rex, for reasons paralleling those set forth above.

Slettenmark US6230042 is directed to a position registry system for catheter registration.

Vesely US5779638 and Pratt Jr et al (US4913157) 10, 12 are further teachings directed to the use of cross-correlation to ascertain transit times.

Any inquiry concerning this communication should be directed to Jaworski Francis J. at telephone number 571-272-4738.

FJJ:fjj

111606

Francis J. Jaworski
Primary Examiner